

BAUXITE EXPLOITATION IN DOMINICAN REPUBLIC

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Metal Bulletin
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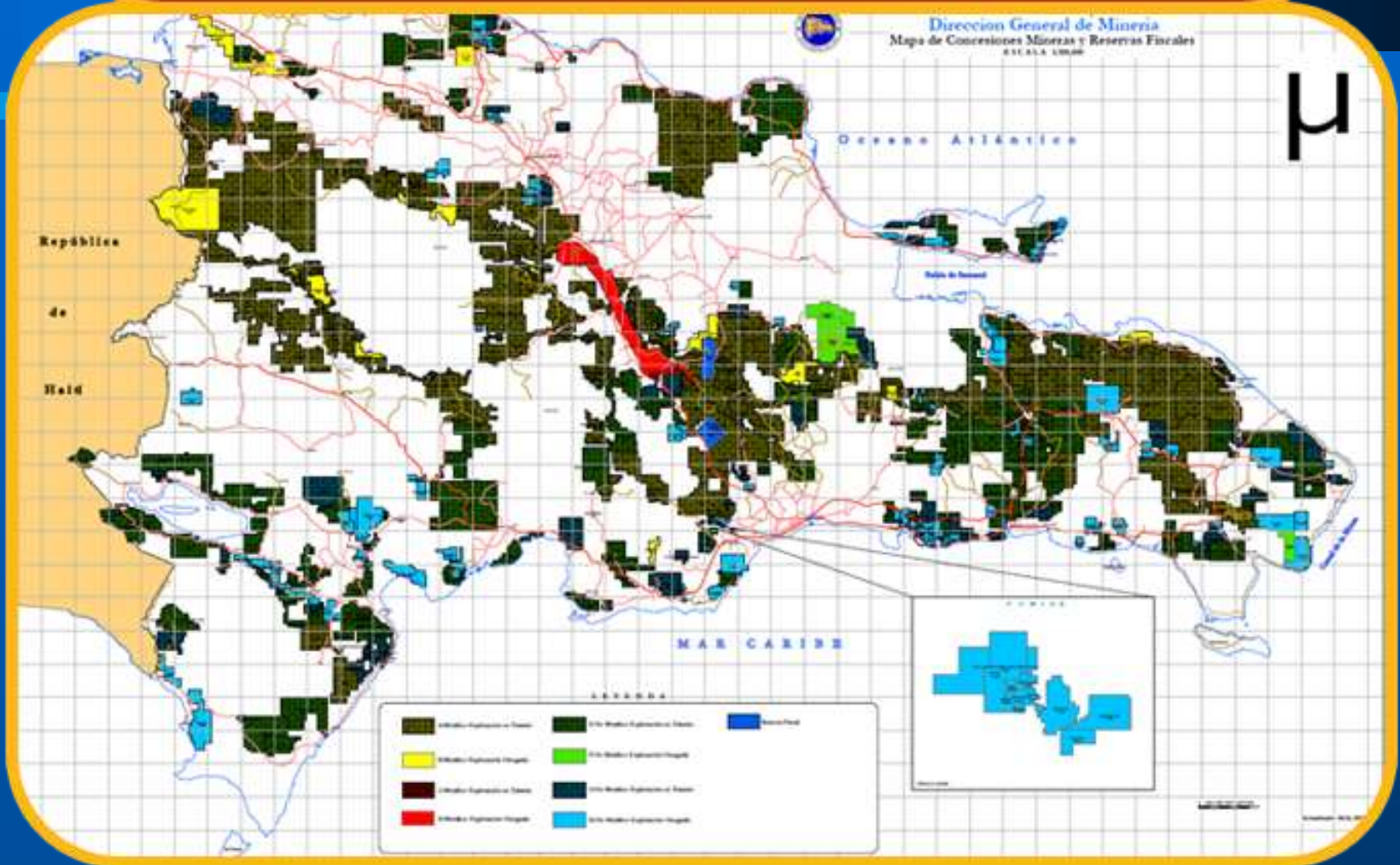
21st Bauxite & Alumina Conference



THE DOMINICAN REPUBLIC



THE MINING IN DOMINICAN REPUBLIC

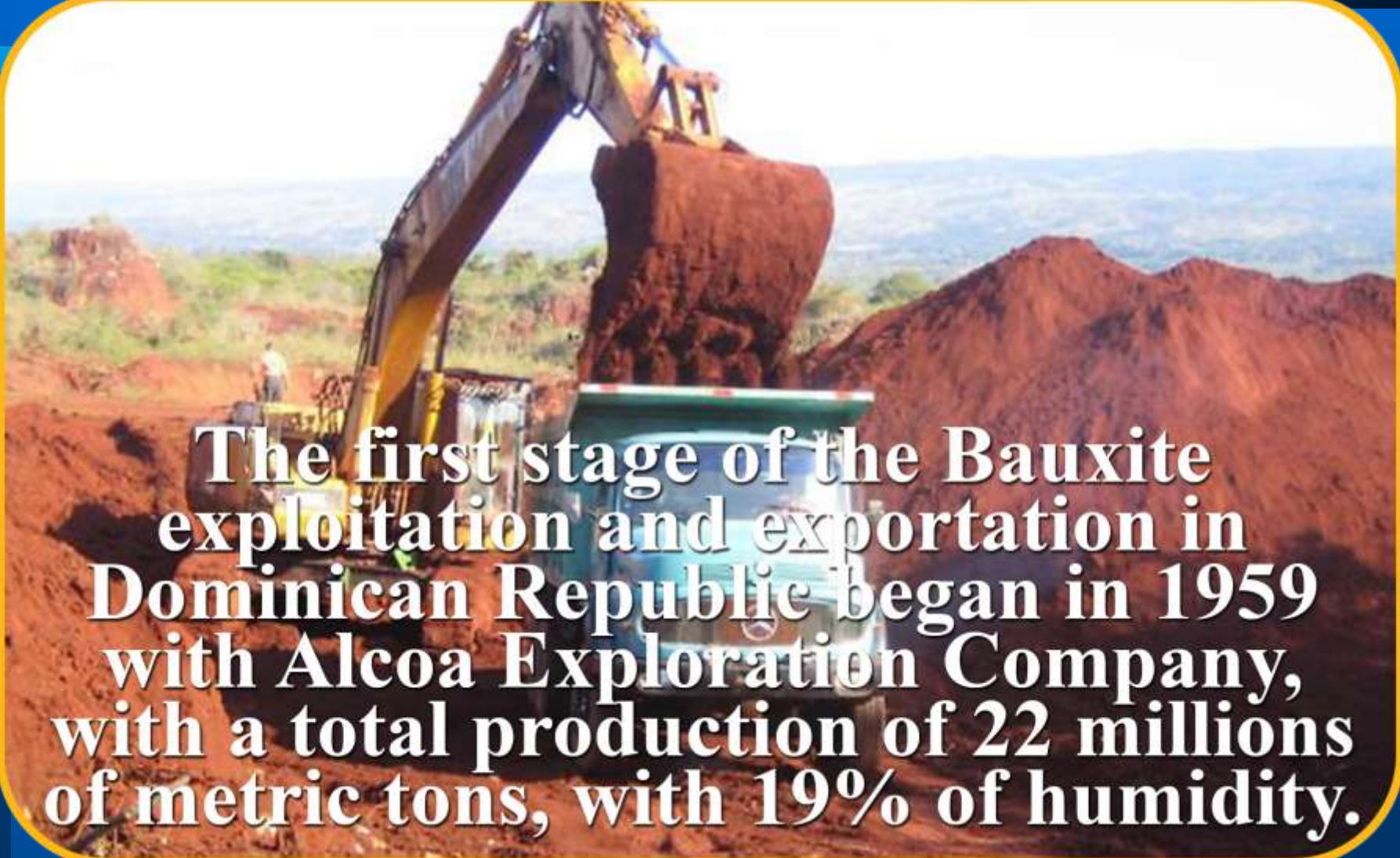


Gold, Silver, Nickel, Cooper, Bauxite

THE MINING IN DOMINICAN REPUBLIC

- **GOLD**-One of the 5 biggest world producer
- **SILVER**
- **NICKEL**-One of the 10 biggest world producer
- **COOPER**
- **ZINC**
- **BAUXITE**

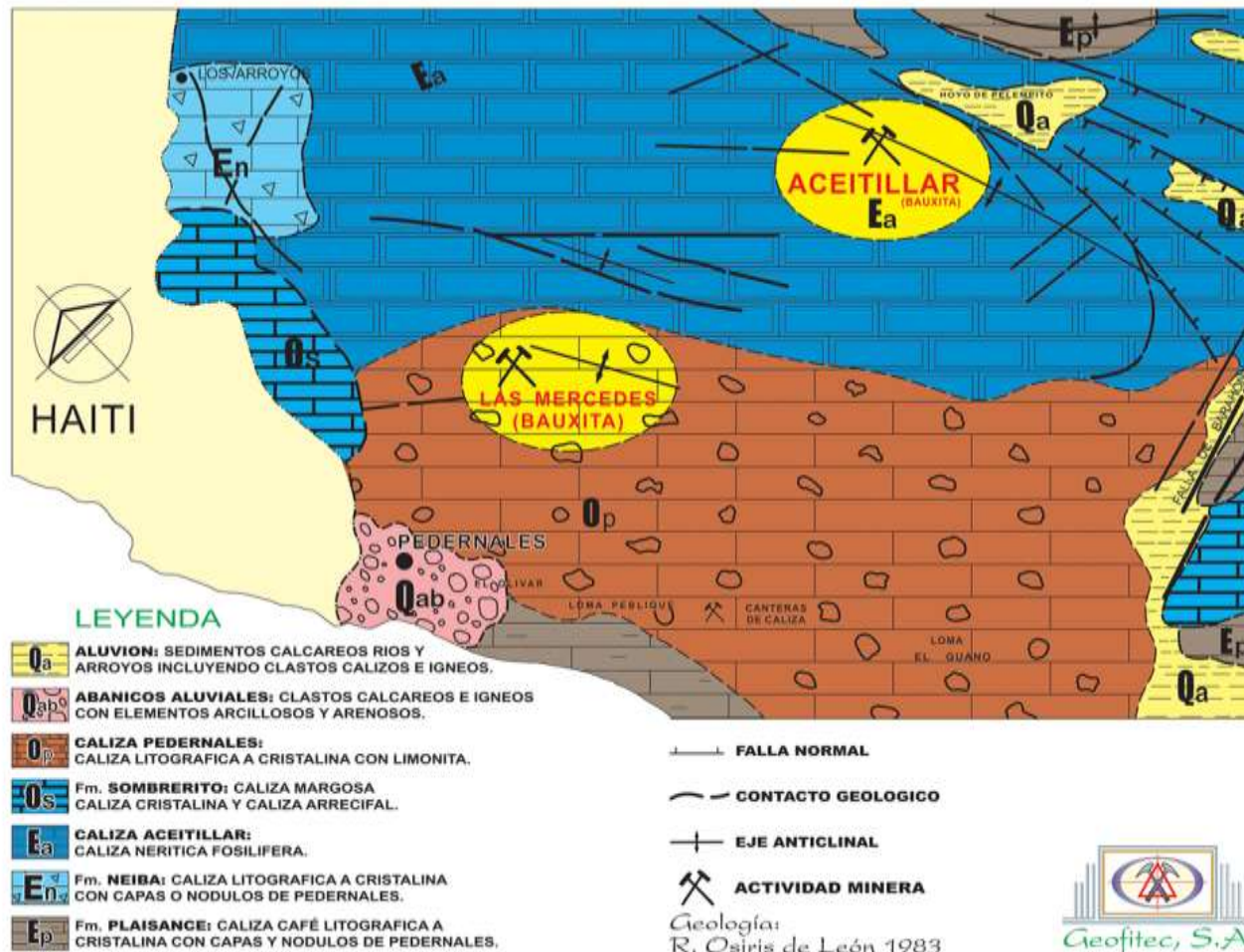
THE BAUXITE IN DOMINICAN REPUBLIC

A photograph showing a yellow excavator loading a large pile of red bauxite ore into the bed of a green truck. The background features a hilly landscape with more bauxite deposits under a clear sky.

The first stage of the Bauxite exploitation and exportation in Dominican Republic began in 1959 with Alcoa Exploration Company, with a total production of 22 millions of metric tons, with 19% of humidity.

**SINCE 1959 UNTIL 1982,
ALCOA WAS MINING IN LAS MERCEDES
AND EL ACEITILLAR BAUXITE DEPOSITS.**

MAPA GEOLOGICO MINAS DE BAUXITAS PEDERNALES



ORIGIN OF DOMINICAN BAUXITE

Origin of Dominican Bauxite

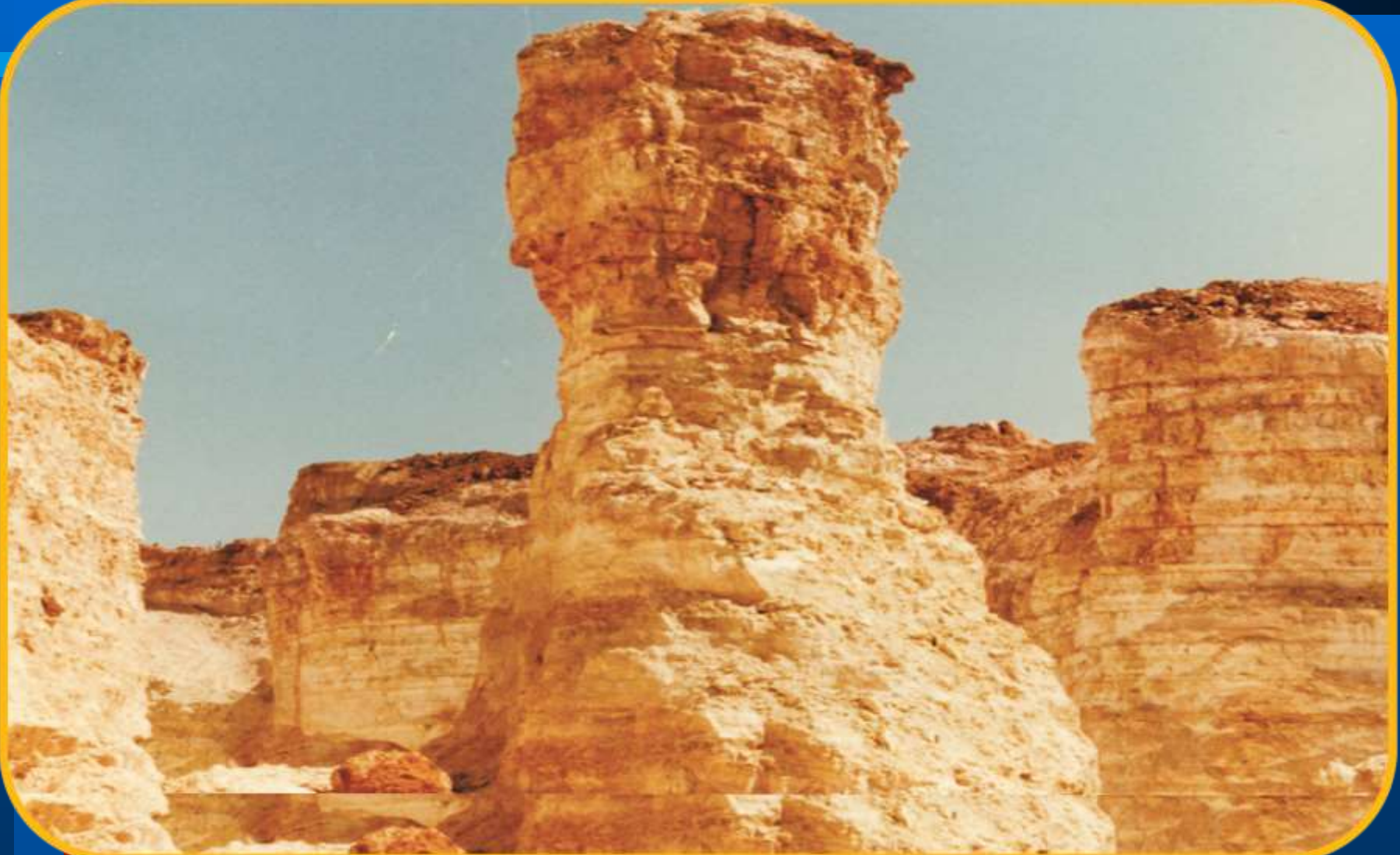
Dominican Bauxite is a product of the tropical weathering process of very old argillaceous limestone, rich in alumina, silica and iron oxide, leaving as residual product a soft red soil with a high concentration of alumina (Al_2O_3), ferric oxide (Fe_2O_3), and silica (SiO_2).



DOMINICAN BAUXITE IS COMING FROM WEATHERING OF MARLY LIMESTONES



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CRISTALINE AND HARD LIMESTONE REMAINS AS CARSTIC TOWERS.



CRISTALINE AND HARD LIMESTONE REMAINS AS CARSTIC TOWERS.



**AFTER BAUXITE EXPLOITATION
THE HARD LIMESTONE NO WEATHERED
REMAINS AS CARSTIC TOWERS**



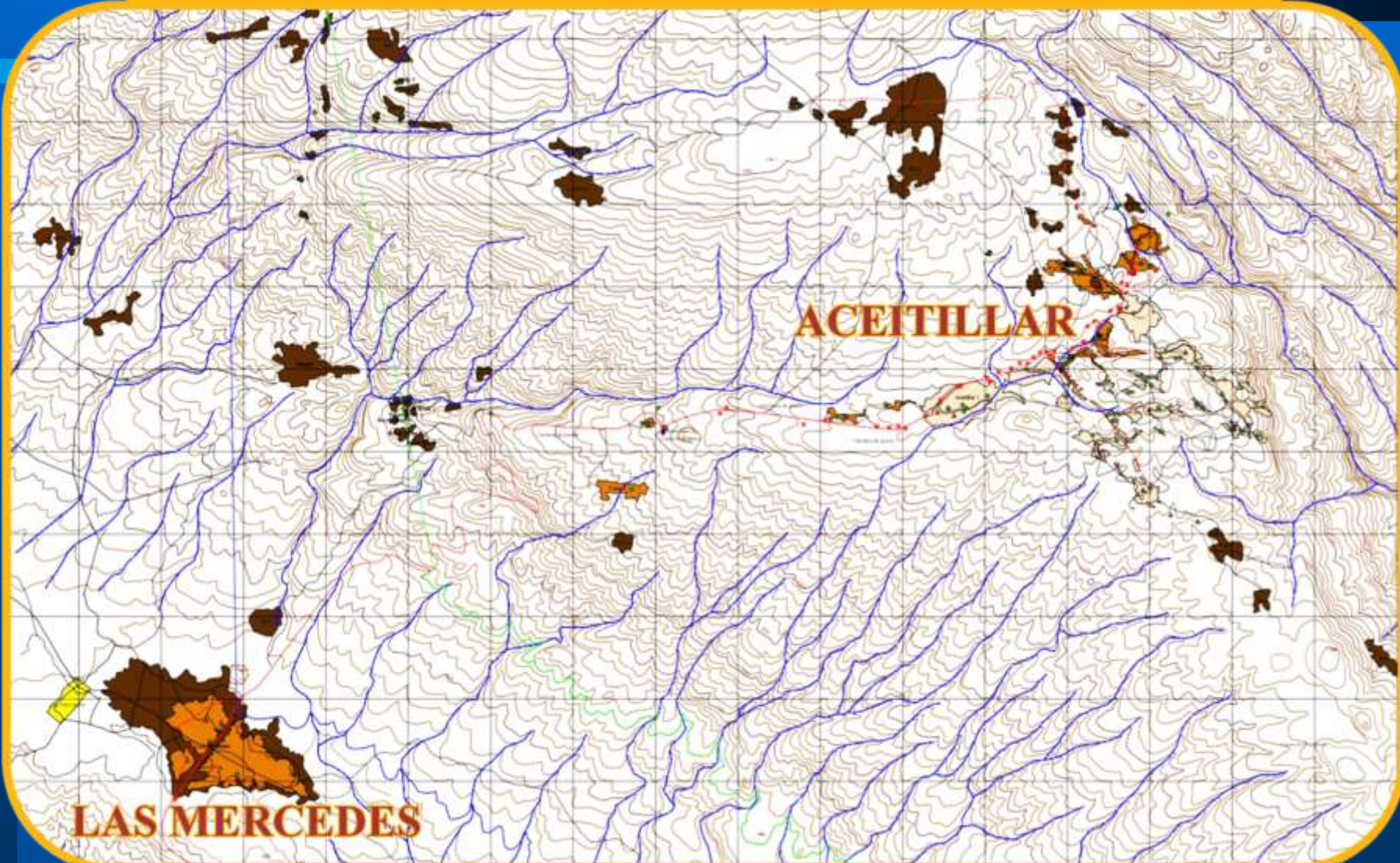
DOMINICAN BAUXITE DEPOSITS.

Dominican Bauxite Deposits

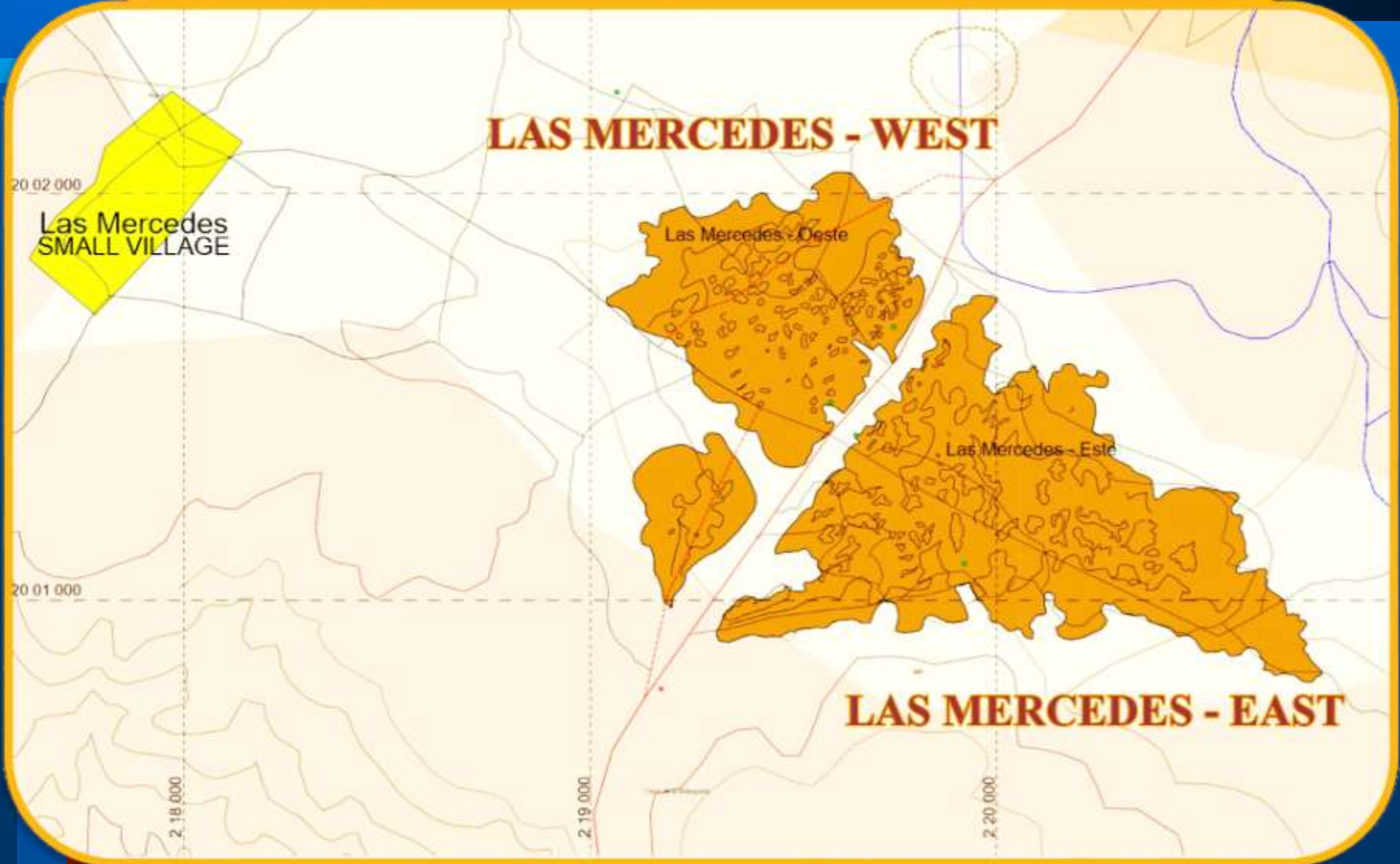
In Dominican Republic we have two main bauxite deposits located at southwest part of the country. The first one is Las Mercedes deposit (in exploitation), and the second one is Aceitillar deposit (high alumina grade), located toward the northeast area of Las Mercedes.



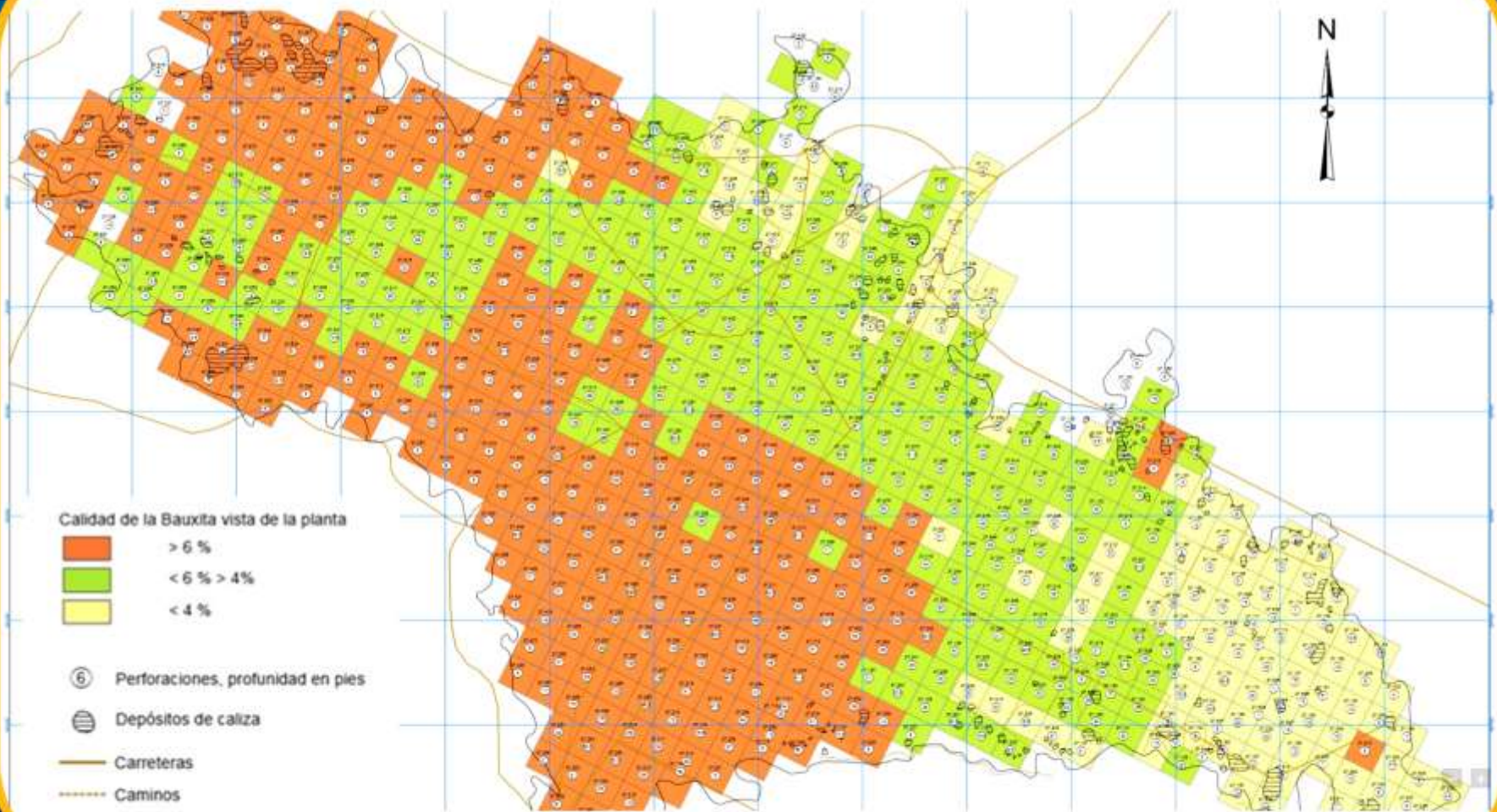
DOMINICAN BAUXITE DEPOSITS



LAS MERCEDES BAUXITE DEPOSIT.



SILICA IN LAS MERCEDES BAUXITE DEPOSIT



**2013 Dominican Bauxite production was 927,834 MT.
With 46.42% Al_2O_3 , 5.58% SiO_2 , 16.9% humidity.**



**2014 Dominican Bauxite production was 1,393,770 MT.
With 46.75% Al_2O_3 , 5.06% SiO_2 , 17.1% humidity.**



Average chemical composition of bauxite from Las Mercedes:

Alumina (Al_2O_3).....	45	a	48%.
Ferric Oxide (Fe_2O_3).....	19	a	21%.
Humidity (H_2O).....	17	a	19%.
Silica(SiO_2).....	3.1	a	8.6%.
Titanium Dioxide (TiO_2)....	2.4	a	2.6%.

LAS MERCEDES QUARRY OPERATIONS



**DOVEMCO IS MINING
NEAR 1.8 MILLIONS OF
METRIC TONS/YEAR.**

LAS MERCEDES QUARRY OPERATIONS



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OF METRIC TONS/YEAR.**

BAUXITE ARRIVES TO CABO ROJO DOCK



Dovemco uses a very big dock

**AT CABO ROJO DOCK BAUXITE
IS LOADED IN BARGES OF 4,000MT.**



A FLOATING CRANE TRANSFER THE BAUXITE FROM THE BARGES TO BIG SHIP OF 185,000MT.



LOADING THE SUPER BIG SHIP



- **A FLOATING CRANE TRANSFER THE BAUXITE FROM THE BARGES TO BIG SHIP OF 185,000MT.**

BIG SHIP FOR BAUXITE TRANSPORTATION FROM PEDERNALES TO CHINA

Big Crane

**Atlantic Merchant
Capacity=187,000tons.**

**Barges from
3,000 to 5,000 metric tons.**



**2013 Dominican Bauxite exportation was 929,575 MT.
With 46.42% Al₂O₃, 5.58% SiO₂, 16.9% humidity.**



EMBARQUES BAUXITA 2013

FECHA EMBARQUE	DESTINO	TONELADAS MÉTRICAS HUMEDAS	Al ₂ O ₃	SiO ₂	% HÚMEDAD	TONELADAS MÉTRICAS SECAS	*MONTO US\$	NOMBRE DEL BARCO
18/04/2013	Canadá	14,790.18	43.46	11.59	17.38%	12,219.65	103,866.99	Australia Borg
31/07/2013	China	186,892.701	47.08	4.00	16.87%	155,363.90	932,183.41	Atlantic Merchant
21/07/2013	Canadá	21,998.701	46.42	4.87	17%	18,258.92	155,200.83	Federal Nakagaua
26/08/2013	China	174,400.31	47.18	3.91	16.19%	146,164.90	876,989.39	Zhong Teng Hai
24/10/2013	China	175,764.03	47.04	4.87	15.01%	149,381.85	1,061,341.10	Churchill Bulker
04/12/2013	China	178,504.26	46.74	4.95	17.94%	144,588.45	867,530.70	Five Stars Beijing
19/12/2013	China	177,225.39	47.01	4.89	18.41%	143,552.57	1,061,341.10	Ianthe

Total TM exportadas a la fecha

929,575.57	46.42	5.58	16.9%	769,530.23	4,693,377.82
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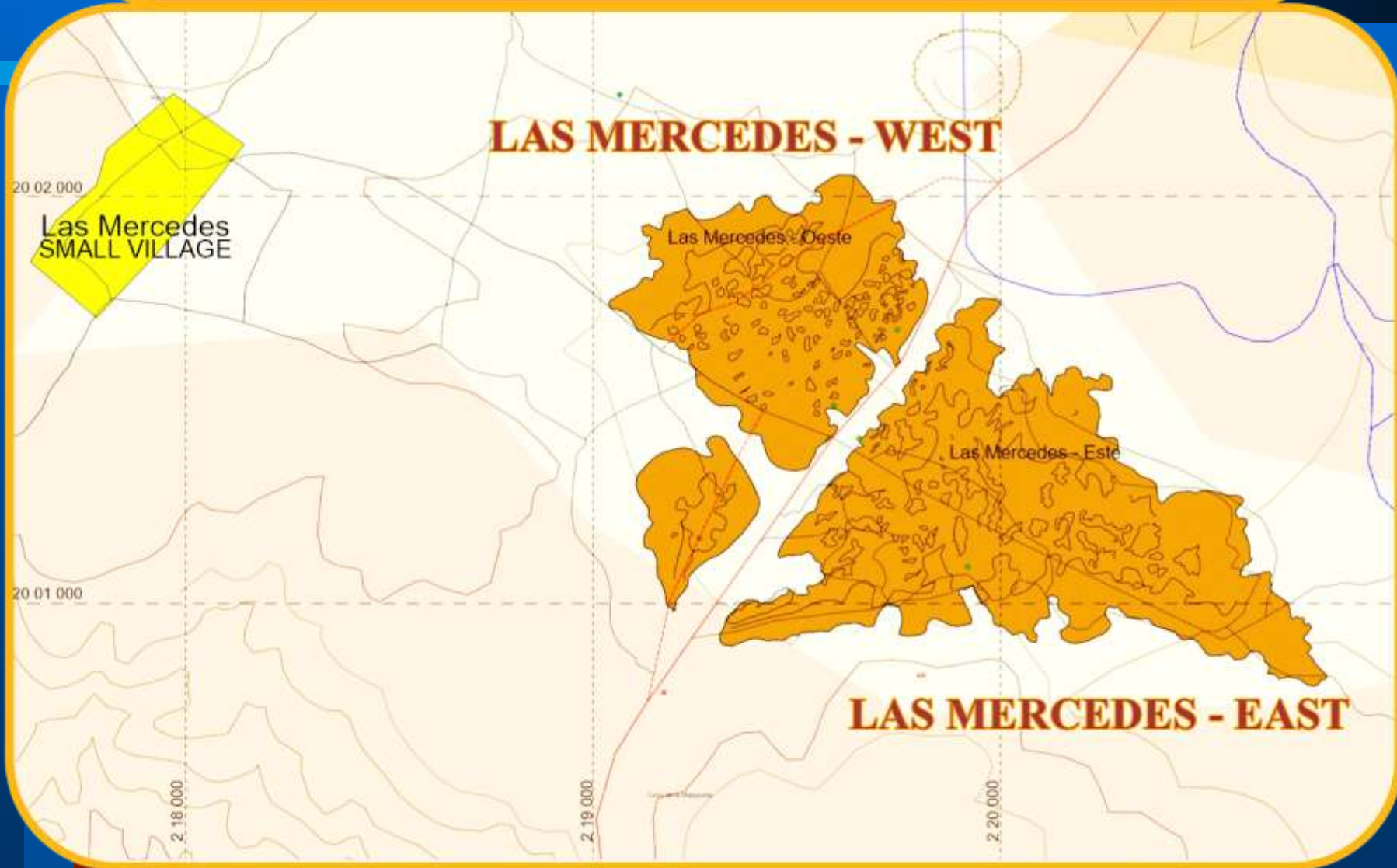
**2014 Dominican Bauxite exportation was 1,393,321 MT.
With 46.75% Al₂O₃, 5.06% SiO₂, 17.1% humidity.**



EMBARQUES BAUXITA 2014

FECHA EMBARQUE	DESTINO	TONELADAS MÉTRICAS HUMEDAS	Al ₂ O ₃	SiO ₂	% HÚMEDAD	TONELADAS MÉTRICAS SECAS	*MONTO US\$	NOMBRE DEL BARCO
30/01/2014	China	176,837.00	46.95	4.44	16.94%	143,237.97	859,427.82	Frontier Explorer
16/02/2014	China	172,312.90	47.44	4.96	17.11%	143,237.97	859,427.82	Great Navigator
19/03/2014	China	154,758.00	46.45	5.37	17.09%	143,237.97	859,427.82	Silver Master
15/04/2014	China	173,112.00	45.86	5.57	16.97%	143,237.97	859,427.82	Great Qin
17/05/2014	Canada	26,000.44	46.59	4.70	16.20%	21,788.87	130,733.22	Eastern Cape
19/05/2014	China	171,799.00	45.94	5.63	16.80%	143,237.97	859,427.82	Bulker Genius
06/06/2014	China	172,505.00	46.22	5.97	16.90%	143,237.97	859,427.82	Bulk Peace
24/08/2014	China	176,947.00	47.94	4.13	16.47%	147,803.83	886,822.97	Australia Maru
12/09/2014	China	169,050.00	47.36	4.81	19.35%	143,237.97	859,427.82	Bulk Prosperity
Total TM exportadas a la fecha		1,393,321.34	46.75	5.06	17.1%	1,172,258.49	7,033,550.93	

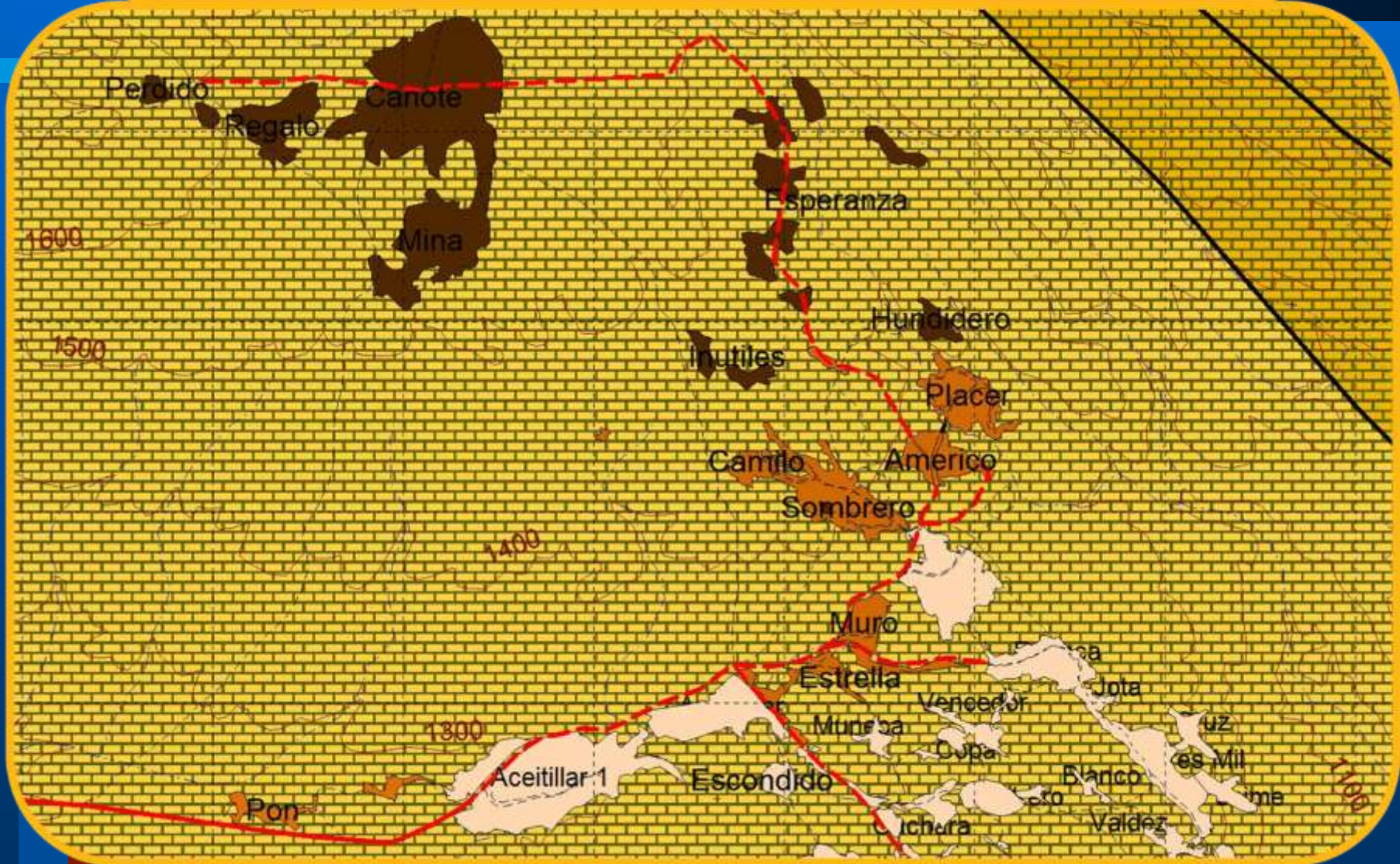
LAS MERCEDES BAUXITE DEPOSIT. RESERVES OF NEAR 3,100,000 WMT.



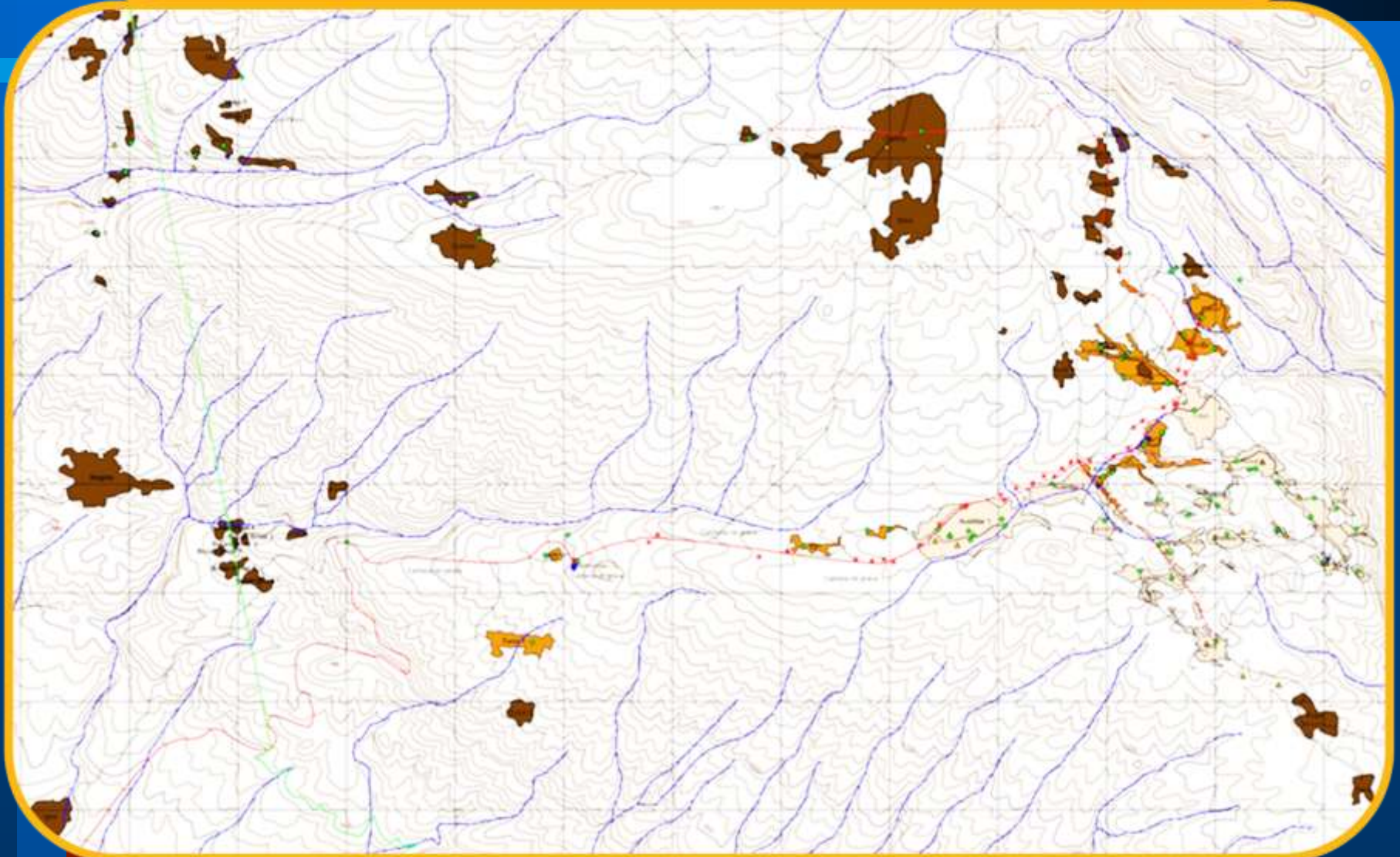
LAS MERCEDES BAUXITE DEPOSIT. RESERVES OF NEAR 3,100,000 WMT.

ESTIMATED RESERVES OF BAUXITE IN LAS MERCEDES DEPOSIT	4,761,247 WMT
ESTIMATED RESERVES OF BAUXITE WITH REQUIRED QUALITY FOR EXPORTATION 46% Al_2O_3 Minimum, and 6% SiO_2 Maximum	3,100,00 WMT
ESTIMATED RESERVES OF BAUXITE WITHOUT REQUIRED QUALITY FOR EXPORTATION	1,571,247 WMT WMT=WET METRIC TONS

EL ACEITILLAR BAUXITE DEPOSIT WAS MINED FROM 1959 TO 1982.



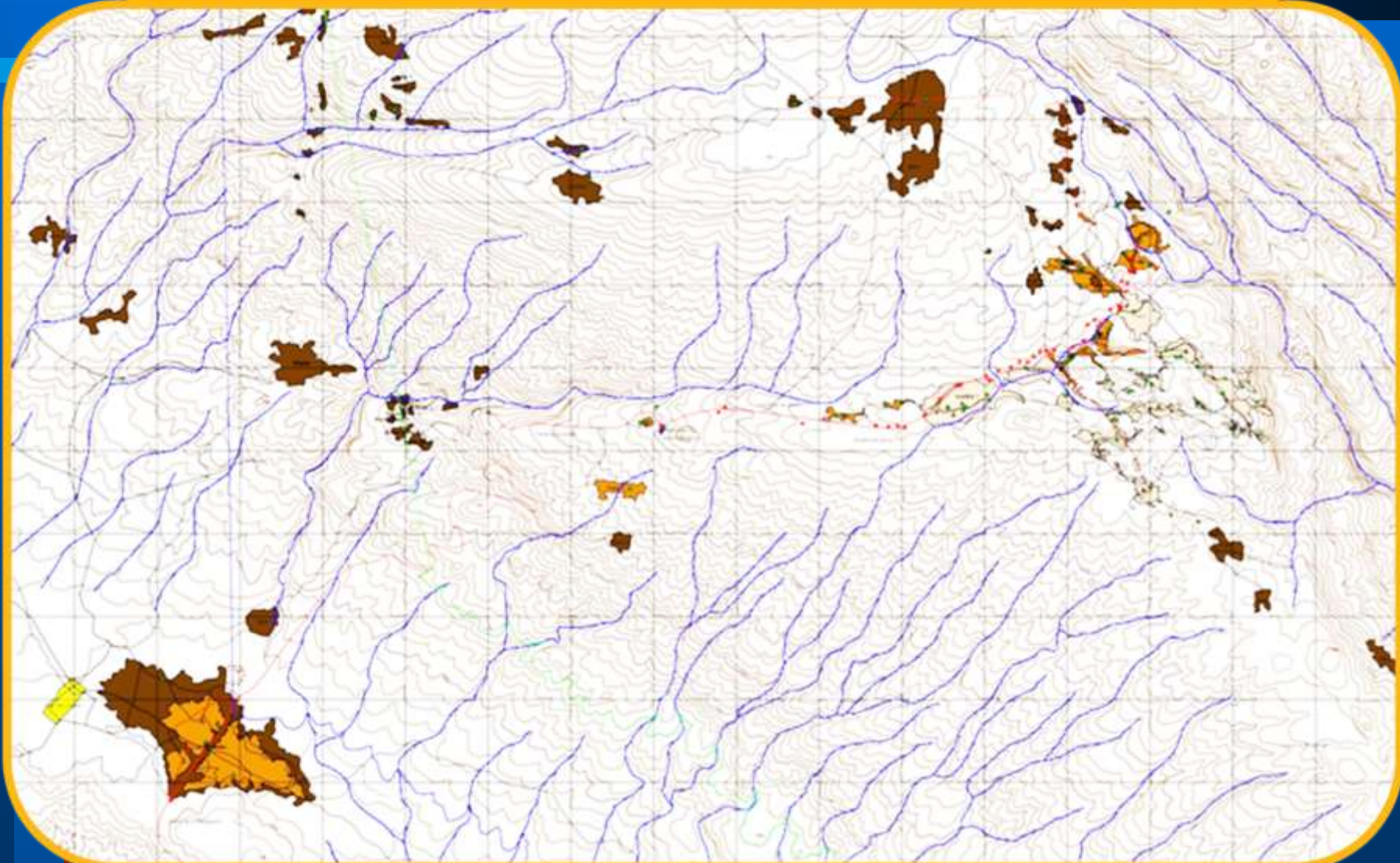
**ACETILLAR BAUXITE DEPOSITS
ARE THE BEST QUALITY
WITH RESERVES OF 20,000,000 MT**



TODAY EL ACEITILLAR BAUXITE DEPOSIT IS LOCATED INSIDE A NATIONAL PARK.



NEW EXPLORATION PROGRAMS.



DOMINICAN BAUXITE IS GOING TO CHINA MARKET



SOCIAL ASPECTS

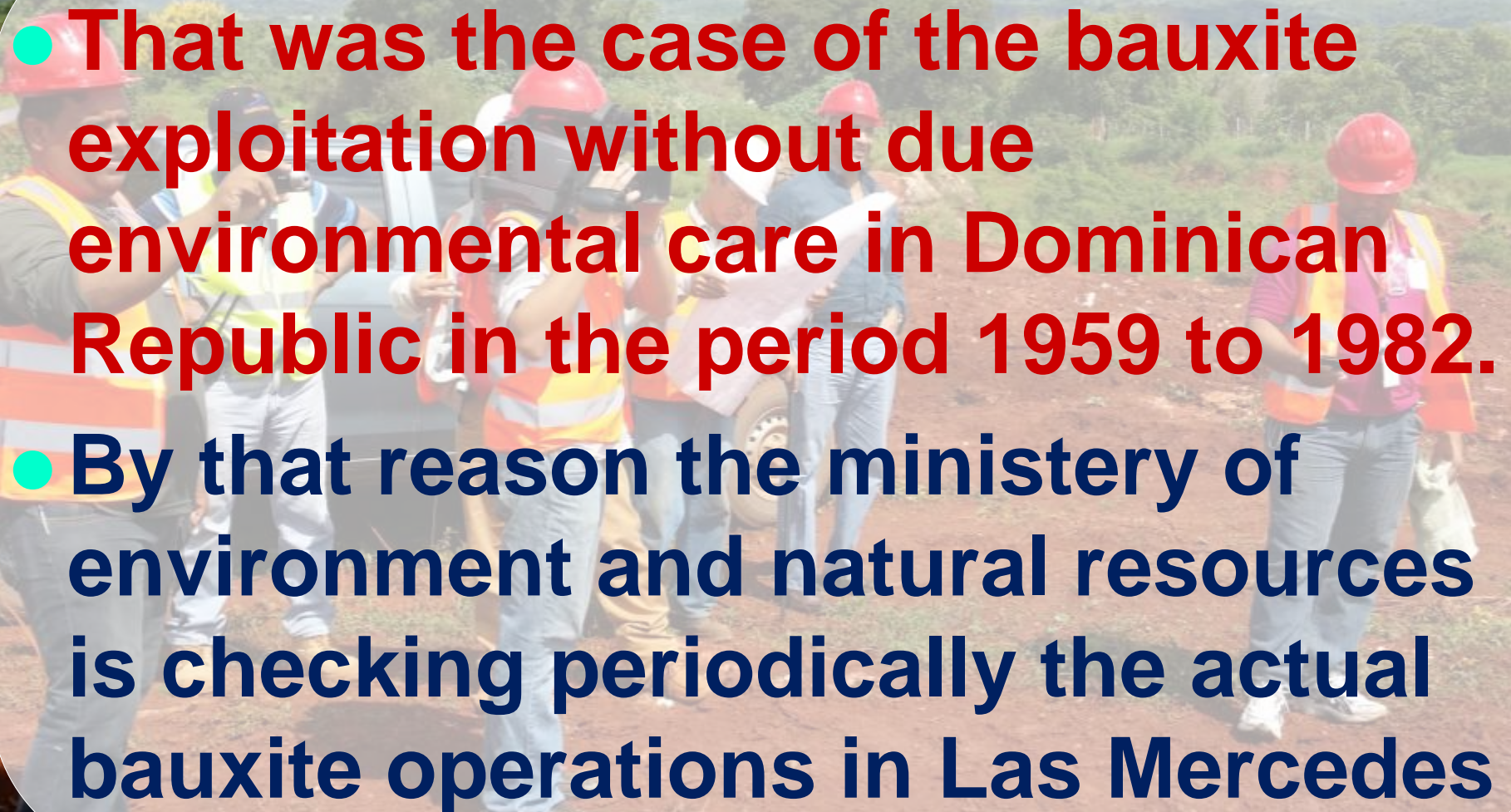
- Bauxite mining is the main productive activity in the Pedernales region, and the main activity generating jobs and money for this remote community located just in the border line with Haiti.



ENVIRONMENTAL CRITERIA

- During the last 20 years many countries have been facing serious problems for environmental damages that have been left exposed in many open pit mining operations carried out without due environmental care.

ENVIRONMENTAL CRITERIA

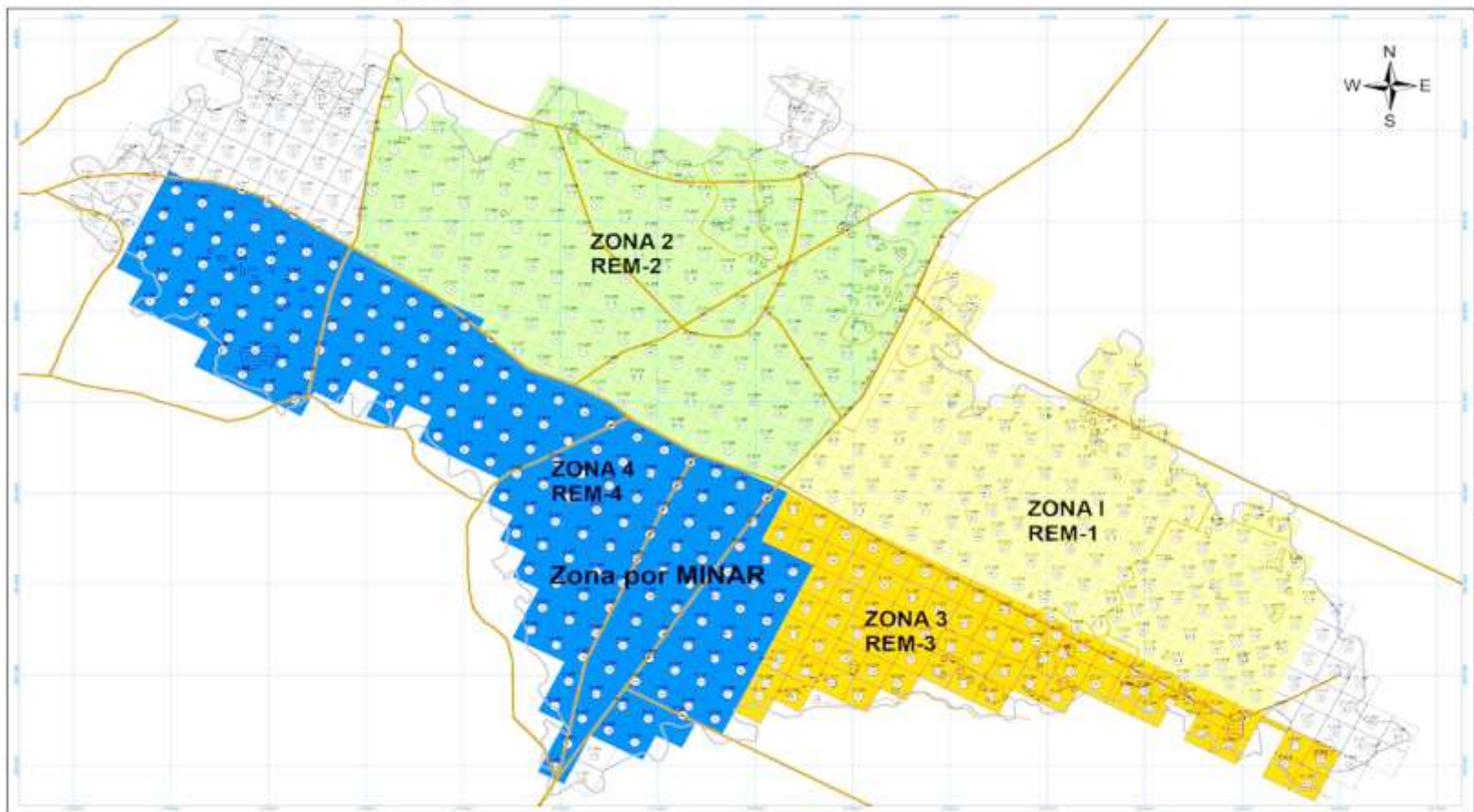
- 
- The background image shows a group of construction workers wearing hard hats and safety vests, standing on a dirt road. They are holding blueprints and looking at a vehicle. The scene is outdoors with trees and hills in the background.
- That was the case of the bauxite exploitation without due environmental care in Dominican Republic in the period 1959 to 1982.
 - By that reason the ministry of environment and natural resources is checking periodically the actual bauxite operations in Las Mercedes

LAS MERCEDES SOIL RECUPERATION PLAN INCLUDING GROUND LEVELING AND REFORESTATION.



DIRECCION GENERAL DE MINERIA

Proyecto Grupos Federales
Agosto del 2016

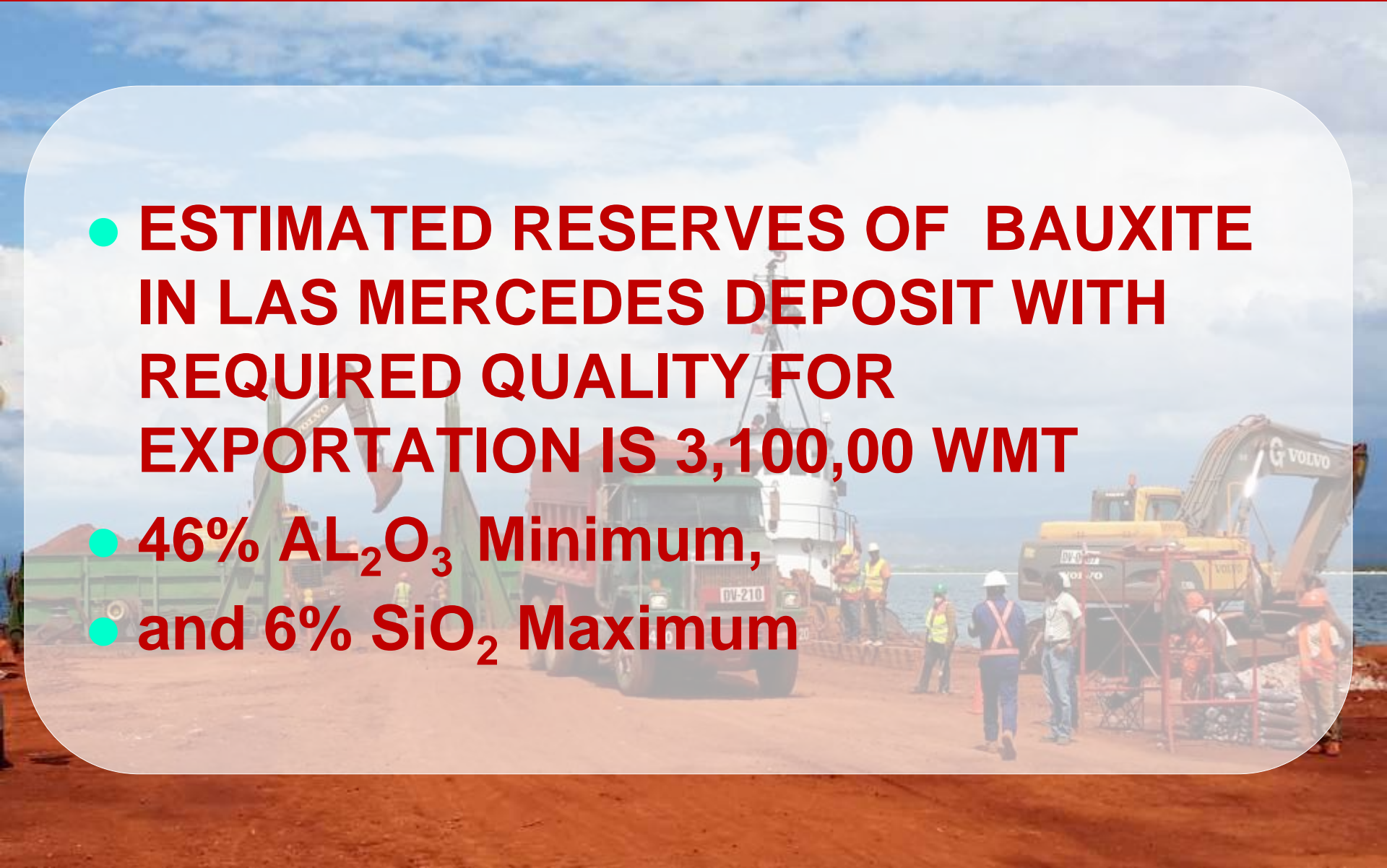


CONCLUSIONS

- **Bauxite mining is the main productive activity in the Pedernales region, and the main activity generating jobs and money for this remote community located just in the border line with Haiti.**

CONCLUSIONS

- **ESTIMATED RESERVES OF BAUXITE IN LAS MERCEDES DEPOSIT WITH REQUIRED QUALITY FOR EXPORTATION IS 3,100,00 WMT**
- **46% Al_2O_3 Minimum,**
- **and 6% SiO_2 Maximum**



CONCLUSIONS

- **ESTIMATED RESERVES OF BAUXITE IN EL ACEITILLAR DEPOSIT WITH REQUIRED QUALITY FOR EXPORTATION IS NEAR 20,000,000 WMT**
- **46% Al_2O_3 Minimum,**
- **and 6% SiO_2 Maximum.**
- **THIS BAUXITE IS THE BEST QUALITY**

CONCLUSIONS

- **THE MAIN PROBLEM WITH HIGH QUALITY RESERVES OF BAUXITE IN EL ACEITILLAR DEPOSIT IS THAT ACTUALLY THE AREA IS INSIDE OF A NATIONAL PARK DEFINED AFTER ALCOA EXPLORATION COMPANY STOP MINING OPERATIONS IN 1982.**

CONCLUSIONS



**MINING DEVELOPMENT
AND ENVIRONMENTAL PROTECTION
MUST BE WALKING IN PARALLEL
WITHOUT AN ACTIVITY BE AFFECTING THE OTHER ONE.**

**MINING MUST NOT HARM THE ENVIRONMENT
TO PREVENT THAT ENVIRONMENTAL POLICIES
BE RESTRICTIVE AGAINST THE MINING OPERATIONS.**

THANK YOU VERY MUCH

